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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,803	05/31/2001	Hal Hjalmar Ottesen	ROC920010046US1	1274

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EXAMINER	
BONSHOCK, DENNIS G	
ART UNIT	**PAPER NUMBER**
2173	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 09/870,803	Applicant(s) OTTESEN ET AL.	
	Examiner Dennis G. Bonshock	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 21 June 2005.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Non-Final Rejection

Response to Amendment

1. It is hereby acknowledged that the following papers have been received and placed on record in the file: Amendment as received on 6-21-2005.

2. Claims 1-28 have been examined.

Status of Claims:

3. Claims 1, 2, 4-9, 12, 14-17, 19, 21, 22, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ding, Patent #5,883,823 and Law, Patent #5,671,020.

4. Claims 3, 10, 11, 13, 18, 20, 23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyamada et al., Patent #5,617,333, hereinafter Oyamada, Law, and Ding, Patent #5,883,823.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 8, 9, 10, 11, 12, 17, 18, 19, 22, 23, 27, and 28 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The term "logic blocks" is cited in the specification but is never defined, nor is this term defined in the art.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 12, 14, 16, 17, and 25 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The "signal bearing medium" of claim 12 and its dependents, where the specification at page 7 indicates that the "medium" can be interpreted as "information conveyed to a computer by a communications medium". Such an embodiment can include "information downloaded from the Internet and other networks". Thus it is clear that the "medium" claims are intended to be claims of mere information.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 2, 4-9, 12, 14-17, 19, 21, 22, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ding, Patent #5,883,823 and Law, Patent #5,671,020.

9. With regard to claim 1, which teaches a method for processing multimedia data, Ding teaches, in column 1, lines 17-23 a system for compressing multimedia data. With regard to claim 1, which further teaches indexing the multimedia data to an i by j matrix; and storing a plurality of odd/event index sequences of the i by j matrix in a data storage device, Ding teaches, in column 4, line 40 through column 5, line 15 and in figure 7, indexing a matrix (i by j array) into groups of even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column index sequences, deriving from each a component class of odd/even index sequences that form an output matrix, and further storing the DCT coefficients and resultant spatial data in memory. Ding, however, doesn't teach that two odd/even index sequences are stored in separate logic blocks of the hard drive. Law teaches a system that divides pixel data into even and odd sequences (see column 2, line 64 through column 3, line 20), as did Ding, but further teaches storing even and odd sequences of pixel data in different memory regions. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding and Law before him at the time the invention was made to modify the odd/even indexing system of Ding to include the storage at different location, as did Law. One would have been motivated to make such a combination because this provides the more efficient access to the image data.

10. With regard to claim 2, which teaches the multimedia data selected form still image data and video image data, Ding further teaches, in column 1, lines 17-23, the use of still images, and the use of video data.

11. With regard to claim 4, which teaches multimedia data representing an image having i times j pixels, Ding teaches, in column 8, lines 24-35, the multimedia data being represented by y time x pixels.

12. With regard to claims 5 and 14, which teach an image having i times j sub-images and wherein the i by j matrix corresponds to the i times j sub-images, Ding teaches, in column 8, lines 24-35, the multimedia data being represented by y time x blocks.

13. With regard to claims 6 and 15, which teach compressing the sub-images before storing the i by j matrix on a hard drive, and decompressing the reconstructed i by j matrix to render the image, Ding further teaches, in column 7, lines 10-25, in column 8,. lines 24-35, and in column 9, lines 40-63, the process of compressing the image before storing and decompressing the image to display on a monitor.

14. With regard to claims 7, 16, and 21, which teach the odd/even index sequences comprising: and odd/odd, odd/even, even/odd, and even/even index sequencing, Ding further teaches, in column 4, lines 60-66 and figure 7, odd/even index sequencing in which there are four index groups even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column.

15. With regard to claim 8, which teaches index sequences being stored in logic blocks on a hard disk drive and wherein each of the index sequences is separately stored in respective logic blocks, Ding further teaches, in column 8, lines 24-35, the index sequences being stored in memory, where memory is known to be made up of logical blocks of data, these logical block being of definable size, as shown by the

applicant (page 10), showing that these logical blocks can be set up to only store so many sequences, in the present case the logic blocks would store less than enough information to contain more than 1 index sequence.

16. With regard to claims 9, 17, and 22, which teach each index sequence stored in one or more logic blocks on a hard disk drive and wherein each logic block contains portions of at most two different index sequences, Ding further teaches, in column 8, lines 24-35, the index sequences being stored in memory, where memory is known to be made up of logical blocks of data, these logical block being of definable size, as shown by the applicant (page 10), showing that these logical blocks can be set up to only store so many sequences, in the present case the logic blocks would store less than enough information to contain more than 2 index sequence.

17. With regard to claim 12, which teaches a signal bearing medium, comprising a program which, when executed by a processor, performs a method comprising: indexing the multimedia data to an i by j matrix; and storing a plurality of odd/even index sequences of the i by j matrix on a hard disk drive, Ding teaches, in column 1, lines 17-23 a system for compressing multimedia data. Ding further teaches, in column 4, line 40 through column 5, line 15 and in figure 7, indexing a matrix (i by j array) into groups of even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column index sequences, deriving from each a component class of odd/even index sequences that form an output matrix, and further storing the DCT coefficients and resultant spatial data in memory. Ding, however, doesn't teach that two odd/even index sequences are stored in separate logic blocks of the hard drive. Law teaches a system

that divides pixel data into even and odd sequences (see column 2, line 64 through column 3, line 20), as did Ding, but further teaches storing even and odd sequences of pixel data in different memory regions. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding and Law before him at the time the invention was made to modify the odd/even indexing system of Ding to include the storage at different location, as did Law. One would have been motivated to make such a combination because this provides the more efficient access to the image data.

18. With regard to claim 19, which teaches a server system for processing multimedia data, Ding teaches, a processor (see column 6, lines 35-38), a memory (see column 6, lines 35-38), one or more storage devices for storing multimedia data (see column 6, lines 9-38). With regard to claim 19, further teaching indexing the multimedia data to an i by j matrix; and storing a plurality of odd/even index sequencing of the i by j matrix, Ding teaches, in column 1, lines 17-23 a system for compressing multimedia data. Ding further teaches, in column 4, line 40 through column 5, line 15 and in figure 7, indexing a matrix (i by j array) into groups of even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column index sequences, deriving from each a component class of odd/even index sequences that form an output matrix, and further storing the DCT coefficients and resultant spatial data in memory. Ding, however, doesn't teach that two odd/even index sequences are stored in separate logic blocks of the hard drive. Law teaches a system that divides pixel data into even and odd sequences (see column 2, line 64 through column 3, line 20), as did Ding, but further teaches storing even and odd sequences of pixel data in different memory

regions. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding and Law before him at the time the invention was made to modify the odd/even indexing system of Ding to include the storage at different location, as did Law. One would have been motivated to make such a combination because this provides the more efficient access to the image data.

19. With regard to claims 24, 25, and 26, which teach retrieving data comprising the stored index sequences form the data storage device and reconstructing the I by j matrix utilizing odd/even index sequencing of the retrieved data, Ding teaches, in column 4, line 40 through column 5, line 15 and in figure 7, indexing a matrix (i by j array) into groups of even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column index sequences, deriving from each a component class of odd/even index sequences that form an output matrix, and further storing the DCT coefficients and resultant spatial data in memory. Ding further teaches, in column 7, lines 10-25, in column 8, lines 24-35, and in column 9, lines 40-63, the process of compressing the image before storing and decompressing the image from storage to display on a monitor.

20. With regard to claim 27, Ding teaches, in column 1, lines 17-23 a system for compressing multimedia data. Ding teaches, in column 4, line 40 through column 5, line 15 and in figure 7, indexing a matrix (i by j array) into groups of even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column index sequences, deriving from each a component class of odd/even index sequences that form an output matrix, and further storing the DCT coefficients and resultant spatial data

in memory. Ding further teaches, in column 7, lines 10-25, in column 8, lines 24-35, and in column 9, lines 40-63, the process of compressing the image before storing and decompressing the image from storage to display on a monitor. Ding, however, doesn't teach that two odd/even index sequences are stored in separate logic blocks of the hard drive. Law teaches a system that divides pixel data into even and odd sequences (see column 2, line 64 through column 3, line 20), as did Ding, but further teaches storing even and odd sequences of pixel data in different memory regions. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding and Law before him at the time the invention was made to modify the odd/even indexing system of Ding to include the storage at different location, as did Law. One would have been motivated to make such a combination because this provides the more efficient access to the image data.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. Claims 3, 10, 11, 13, 18, 20, 23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oyamada et al., Patent #5,617,333, hereinafter Oyamada, Law, and Ding, Patent #5,883,823.

23. With regard to claims 3, 13, and 20, Ding teaches a system that provides for compressing image and video data for storage in memory, which includes a hard drive (see column 35-38), but doesn't disclose disabling a data recovery procedure programmed on the data storage device, Oyamada teaches a system placing image and video date into blocks (see column 3, lines 8-50), similar to that of Ding but further teaches, in column 3, lines 20-51, disabling the default data recovery procedure of retransmitting the data, and to use a system of estimating the block with it's associated blocks. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding, Law, and Oyamada before him at the time the invention was made to modify the image processing system of Ding and Law to use the system of estimating blocks as did Oyamada. One would have been motivated to make such a combination because with systems where large amounts of multimedia are transferred a means of date correction is needed.

24. With regard to claim 10, Ding teaches a system that provides for compressing image and video data, but doesn't disclose when logic is flawed, assigning one or more fixed values for one or more portions of the index sequences contained in the flawed logic. Ding further teaches, in column 8, lines 24-35, the index sequences being stored in memory, where memory is known to be made up of logical blocks of data, these logical block being of definable size, as shown by the applicant (page 10), showing that these logical blocks can be set up to only store so many sequences, in the present case the logic blocks would store less than enough information to contain more than 1 index sequence. Oyamada teaches a system placing image and video date into blocks (see

column 3, lines 8-50), similar to that of Ding but further teaches, in column 10, lines 14-45, replacing flawed data with a selected substitution block stored in memory. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding, Law, and Oyamada before him at the time the invention was made to modify the image processing system of Ding and Law to use the system of estimating blocks as did Oyamada. One would have been motivated to make such a combination because with systems where large amounts of multimedia are transferred a means of date correction is needed.

25. With regard to claims 11, 18, and 23, Ding teaches a system that provides for compressing image and video data, but doesn't disclose when logic is flawed, interpolating one or more replacement values for one or more portions of the index sequences contained in the flawed logic. Ding further teaches, in column 8, lines 24-35, the index sequences being stored in memory, where memory is known to be made up of logical blocks of data, these logical block being of definable size, as shown by the applicant (page 10), showing that these logical blocks can be set up to only store so many sequences, in the present case the logic blocks would store less than enough information to contain more than 1 index sequence. Oyamada teaches a system placing image and video date into blocks (see column 3, lines 8-50), similar to that of Ding, but further teaches, in column 1, lines 15-19, when data has been lost interpolating with a substitution data. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding, Law, and Oyamada before him at the time the invention was made to modify the image processing system of Ding and Law to use the

system of estimating blocks as did Oyamada. One would have been motivated to make such a combination because with systems where large amounts of multimedia are transferred a means of date correction is needed.

26. With regard to claim 27, Ding teaches a system that provides for compressing image and video data, but doesn't disclose disabling a data recovery procedure, or when logic is flawed, assigning one or more fixed values for one or more portions of the index sequences contained in the flawed logic. Ding further teaches, in column 8, lines 24-35, the index sequences being stored in memory, where memory is known to be made up of logical blocks of data, these logical block being of definable size, as shown by the applicant (page 10), showing that these logical blocks can be set up to only store so many sequences, in the present case the logic blocks would store less than enough information to contain more than 1 index sequence. Oyamada teaches a system placing image and video date into blocks (see column 3, lines 8-50), similar to that of Ding but further teaches, in column 3, lines 20-51, disabling the default data recovery procedure of retransmitting the data, and in column 10, lines 14-45, replacing flawed data with a selected substitution block stored in memory. It would have been obvious to one of ordinary skill in the art, having the teachings of Ding, Law, and Oyamada before him at the time the invention was made to modify the image processing system of Ding and Law to use the system of estimating blocks as did Oyamada. One would have been motivated to make such a combination because with systems where large amounts of multimedia are transferred a means of date correction is needed.

Response to Arguments

27. The arguments filed on 6-21-2005 have been fully considered but they are not persuasive. Reasons set forth below.

28. The applicants' argue that Ding does not teach storing a plurality of odd/even index sequences of an I by j matrix on a hard disk drive.

29. In response, the examiner respectfully submits that, as admitted by the applicant "Ding discloses a partial odd/even indexing of a coefficient matrix in computing regional inverse discrete cosine transform (IDCT) coefficients" and Ding further teaches, in column 4, line 40 through column 5, line 15, indexing a matrix (i by j array) into groups of even-row-even-column, even-row-odd-column, odd-row-even-column, and odd-row-odd-column index sequences (as is claimed), deriving from each a component class of odd/even index sequences that form an output matrix, and further storing the DCT coefficients and resultant spatial data in memory (where memory includes a hard drive, see column 6, lines 36-40). Further more the division of image data into a matrix and storage on a hard drive is admitted to in the applicant background (paragraphs 3 and 6).

30. The applicants' argue that Ding only teaches a first quadrant that utilizes odd/even index sequencing.

31. In response, the examiner respectfully submits that the claim only limits to a plurality of odd/even index sequences, not stating the whole image.

32. The applicants' argue that Ding does not teach restructuring a matrix utilizing odd/even index sequencing of the matrix.

33. In response, the examiner respectfully submits that Ding teaches, in column 4, line 12 through column 5, line 15, the storing utilizing odd/even indexing being part of the IDCT algorithm, where, column 9, lines 40-62 and column 7, lines 11-25, discusses the process of reversing the prior process of the conversion, specifically providing the output to a inverse DCT converter for reversing the operation performed by the DCT converter. Ding further teaches, in column 5, lines 59-64, utilizing the computation of the inverse discrete cosine transform during video encoding or video compression and/or video decoding or video decompression, where the IDCT algorithm as shown above comprises indexing the matrix into odd/even sequences.

Conclusion

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis G. Bonshock whose telephone number is (571) 272-4047. The examiner can normally be reached on Monday - Friday, 6:30 a.m. - 4:00 p.m.

35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

36. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9-6-05
dgb

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